

REMARKS

Claims 1, 2, 5-15, and 17-19 stand rejected, and claims 3, 4, 16, and 20 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim. Claim 21 is added; therefore, after entry of this amendment, claims 1-21 will be pending. The Applicant sincerely thanks the Examiner for the indication of allowability of claims 3, 4, 16, and 20.

Claims 1-3, 14, 15, 16, and 20 are amended. Claims 3, 16, and 20 are rewritten in independent form, as indicated in the Office action. Claims 1 and 15 are amended to more particularly point out the invention and to provide antecedent basis for amended claim 2. Claim 2 is amended to more particularly point out the invention and to correct a misspelling. Support for these amendments is found in Figs. 2 and 3 and the associated written description, and in as-filed claim 20. Claim 14 is amended to correct a typographical error. Support for new claim 21 is found in Fig. 5 and the associated written description. The undersigned believes these amendments do not add new matter.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 5, 9, 15, and 19 stand rejected as being unpatentable over U.S. Patent No. 5,268,674 to Howard et al. (hereinafter "Howard"). The Examiner cites Fig. 13 of Howard for disclosing a button assembly comprising a first cantilever beam (92) having a first end and a second end, the first end being movably coupled to an electronic input device through a first fulcrum (13) at the first end; a second cantilevered beam (12) having an exposed button portion, the second cantilevered beam being movably coupled to the first cantilevered beam through the second fulcrum (at arrow 92). The Applicant respectfully traverses the Examiner's position.

Claim 1, as amended, recites, among other elements, that the first end of the first cantilevered beam is flexibly attached to the housing of the electronic input device through the first fulcrum. Howard describes reference numeral 13 as a "switch pad" that engages and operates momentary action switch 20 (Col. 4, lines 5-6), which suggests that the switch pad 13 does not engage the momentary action switch when the button is not depressed. In either event, the switch pad 13 does not flexibly attach to the mouse body

10, as recited in amended claim 1. Therefore Howard does not anticipate claim 1, and claim 1 and all claims that depend from claim 1 are allowable.

Claim 2, which depends from claim 1, recites, as amended, that the first fulcrum comprises a first flexible hinge and the second fulcrum comprises a second flexible hinge. Thus, the first cantilevered beam has a flexible hinge on each end, which is not disclosed or suggested in Howard and claim 2 is further allowable.

Regarding claim 5, the Examiner refers to Figure 9b of Howard, and states that Howard discloses a computer pointing input device comprising a housing 10, a palm portion of the housing configured to receive a user's hand, a distal portion of the housing extending generally away from the palm portion 101 and a switch button having a palm end and a distal end 12. The Examiner states that it can be seen clearly in Figure 9b that the switch button is configured to actuate an electronic switch within the computer pointing input device upon application of sufficient force, the switch button being movably coupled to the housing so as to move about a fulcrum 100 that is nearer to the distal end than to the palm end of the switch button. The Applicant respectfully traverses the Examiner's position and directs the Examiner's attention to the mounting tabs 11 shown in Figure 8b of Howard, which appears to be a plan view of the push latch shown in Fig. 9b.

Fig. 8b shows that the fulcrum 100 indicated by the Examiner in Fig. 9b is the horizontal-to-vertical corner of the mouse button 12. It does not appear that the distal end of the mouse button (*i.e.* fulcrum 100/corner) is a fulcrum about which the switch button moves. Rather, Howard states that “[i]n operation, button 12 is depressed, flexing mounting tabs 11, and switch pad 13 engages and operates momentary action switch 20. When mouse button 12 is released, mounting tabs 11 return the button to its normal position” (Col. 4, lines 4-8). It is the Applicant's position that the switch button 12 does not move about the fulcrum 100 indicated by the Examiner, but rather the switch button 12 moves about the mounting tabs 11 that flex in response to a user applying pressure to the mouse button 12. The mounting tabs 11 are closer to the palm portion of the housing, thus the Applicant believes claim 5 and all claims that depend from claim 5 are allowable.

In reference to claim 9, the Examiner states that Figure 9b of Howard shows the recited spring beam in element 200 and the recited second fulcrum in element 201.

Referring again to Figure 8b, the Applicant believes that element 200 is the front wall or surface of the mouse button 12, and that element 201 is the bottom edge of the mouse button 12. Accordingly, the Applicant believes claim 9 is further patentable.

In reference to claim 15, the Examiner states that Fig. 13 discloses a computer pointing input device comprising a spring beam flexibly coupled to the housing through a first fulcrum ("switch pad") 13. The Examiner also cites the switch pad 13 as the plunger recited in claim 15. The Applicant respectfully disagrees that Howard anticipates the recited first fulcrum, as amended, or the recited relationship between the spring beam, fulcrum, and housing.

Claim 15, as amended, recites, among other elements a spring beam flexibly attached to a housing through a first fulcrum. As discussed above in support of claim 1, the spring beam is not flexibly attached to the housing 10 through the switch pad 13. Accordingly, the Applicant believes claim 15 and all claims that depend from claim 15 are allowable.

Rejections under 35 U.S.C. § 103

Claims 6-8, 10-14, and 17-18 stand rejected as being unpatentable over Howard.

Claim 6, which depends from claim 5, recites that the force required to actuate the electronic switch at the distal end of the switch button is greater than the force required at the palm end. The Applicant teaches that the recited configuration is desirable to allow persons with smaller, and presumably weaker, hands to more easily actuate the switch, and provides more tactile feedback to persons with larger, and presumably stronger, hands. Page 7, lines 1-10 and page 4, lines 15-25. It was the Applicant who not only realized that conventional switch buttons operated contrary to ergonomic principles, but also provided a solution in the form of the recited computer pointing input device. The switch button disclosed in Howard is flexibly attached to the housing with mounting tabs 11 that have the opposite force profile from that recited in claim 6, and thus teaches away from claim 6. The Applicant respectfully submits that there is no motivation provided in Howard, nor a convincing line of reasoning why one would be motivated, to modify the

latching mouse button disclosed in Howard to arrive at the claimed invention.

Accordingly, the Applicant believes that claim 6 is further allowable.

Claim 7 and 8 provide contextual understanding of the operation of the computer pointing input device. The Examiner states that there is no disclosed criticality to these particular design specifications in the invention. The criticality lies in the forces desired for operation by users having hands of different sizes, as discussed in relation to Table 2 of the disclosure. The Applicant respectfully traverses the Examiner's assertion that one of ordinary skill in the art would know the amount of force necessary for the mouse device to work as claimed, and respectfully direct the Examiner's attention to Table 1, which illustrates the force profile of a conventional mouse button. Before a variable can be optimized, it must be recognized as a result-effective variable. The Applicant teaches the desirability of an increasing force profile, and techniques for achieving an increasing force profile, while Howard does not. The distance and forces recited in the claims are not merely for conventional operation of a mouse button, but enable a mouse that is easier to operate and more ergonomic. Ordinary skill in the art does not define the relative forces and magnitudes recited in claims 7 and 8, and the Applicant believes claims 7 and 8 are further patentable.

Claim 10, which depends on claim 5 through claim 9, is believed to be further patentable for at least the reasons provided above in support of claim 6.

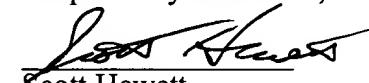
Claim 13 provides contextual understanding of a particular embodiment of the invention. As shown in Table 1, the force applied to the button of a conventional mouse with a single-fulcrum design is higher at the palm end of the button, which is opposite to ergonomic considerations. The two fulcrums recited in claims 9 and 5, from which claim 13 depends, enables the recited, relatively low, force gradient. In other words, claim 13 enables a computer pointing device with an essentially constant actuation force along the switch button. A constant actuation force is not disclosed or suggested in the cited art, and the particular solution of providing two fulcrums to enable an essentially constant actuation force is not disclosed or suggested. Accordingly, the Applicant believes claim 13 is further patentable, and that claim 14 is further patentable for at least similar reasons.

Conclusion

In view of the foregoing, the Applicant believes all claims pending in this Application are in condition for allowance. The Applicant respectfully requests reconsideration of all pending claims, the withdrawal of all rejections, and the issuance of a formal Notice of Allowance at an early date.

If the Examiner believes this amendment does not put all pending claims in condition for allowance, the undersigned invites the Examiner to telephone the undersigned at (707) 591-0789.

Respectfully submitted,



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